

No.

200200141



# THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Nobel AG, Inc.

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

FESCUE, TALL

'Biltmore'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this twenty-fifth day of April, in the year two thousand and five.

Attest:

  
Commissioner  
Plant Variety Protection Office  
Agricultural Marketing Service

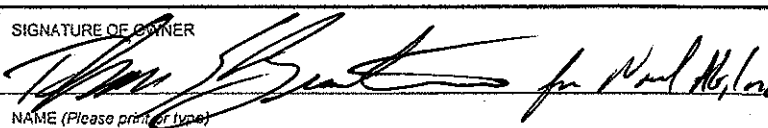
  
Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE  
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE

**APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE**  
(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF OWNER Novel AG, Inc.		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME MI-3		3. VARIETY NAME Biltmore	
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country) 19664 Bernards Lane NE St. Paul OR 97137 Thomas E. Brentano		5. TELEPHONE (include area code) 503-633-2697		FOR OFFICIAL USE ONLY  VPVO NUMBER 200200141	
		6. FAX (include area code) 503-633-2698			
7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) Corporation		8. IF INCORPORATED, GIVE STATE OF INCORPORATION January 2000		9. DATE OF INCORPORATION Oregon	
10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. (First person listed will receive all papers) Thomas E. Brentano				FILING AND EXAMINATION FEES: \$ 2705-	
				DATE 4/19/02	
				CERTIFICATION FEE: \$ 432-	
				DATE 3/15/2005	
11. TELEPHONE (include area code) 503-633-2697		12. FAX (include area code) 503-633-2698		13. E-MAIL tom1@stpaultel.com	
14. CROP KIND (Common Name) Tall fescue					
15. GENUS AND SPECIES NAME OF CROP Festuca arundinacea		16. FAMILY NAME (Botanical) Graminaea		17. IS THE VARIETY A FIRST GENERATION HYBRID? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
18. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse) a. <input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety b. <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness c. <input checked="" type="checkbox"/> Exhibit C. Objective Description of Variety d. <input type="checkbox"/> Exhibit D. Additional Description of the Variety (Optional) e. <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Owner's Ownership f. <input checked="" type="checkbox"/> Voucher Sample (2,500 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository) g. <input checked="" type="checkbox"/> Filing and Examination Fee (\$2,705), made payable to "Treasurer of the United States" (Mail to the Plant Variety Protection Office)			19. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? See Section 83(a) of the Plant Variety Protection Act <input type="checkbox"/> YES (If "yes", answer items 20 and 21 below) <input checked="" type="checkbox"/> NO (If "no", go to item 22)		
			20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF CLASSES? <input type="checkbox"/> YES <input type="checkbox"/> NO IF YES, WHICH CLASSES? <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED		
22. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. (Please use space indicated on reverse.)			21. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input type="checkbox"/> YES <input type="checkbox"/> NO IF YES, SPECIFY THE <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED NUMBER 1,2,3, etc. (If additional explanation is necessary, please use the space indicated on the reverse.)		
			23. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT (PLANT BREEDER'S RIGHT OR PATENT)? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF YES, PLEASE GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. (Please use space indicated on reverse.)		
24. The owners declare that a viable sample of basic seed of the variety will be furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate.  The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.  Owner(s) is(are) informed that false representation herein can jeopardize protection and result in penalties.					
SIGNATURE OF OWNER 			SIGNATURE OF OWNER		
NAME (Please print or type) Thomas E BRENTANO			NAME (Please print or type)		
CAPACITY OR TITLE President / owner		DATE 3/28/02		CAPACITY OR TITLE	
				DATE	

**GENERAL:** To be effectively filed with the Plant Variety Protection Office (PVPO), ALL of the following items must be received in the PVPO: (1) Completed application form signed by the owner; (2) completed exhibits A, B, C, E; (3) for a seed reproduced variety at least 2,500 viable untreated seeds, for a hybrid variety at least 2,500 untreated seeds of each line necessary to reproduce the variety, or for tuber reproduced varieties verification that a viable (in the sense that it will reproduce an entire plant) tissue culture will be deposited and maintained in an approved public repository; (4) check drawn on a U.S. bank for \$2,705 (\$320 filing fee and \$2,385 examination fee), payable to "Treasurer of the United States" (See Section 97.6 of the Regulations and Rules of Practice.) Partial applications will be held in the PVPO for not more than 90 days, then returned to the applicant as unfilled. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 500, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. Retain one copy for your files. All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. DO NOT use masking materials to make corrections. If a certificate is allowed, you will be requested to send a check payable to "Treasurer of the United States" in the amount of \$320 for issuance of the certificate. Certificates will be issued to owner, not licensee or agent.

Plant Variety Protection Office

Telephone: (301) 504-5518

FAX: (301) 504-5291

Homepage: <http://www.ams.usda.gov/science/pvpo/pvp.htm>

#### ITEM

- 18a. Give: (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method; (2) the details of subsequent stages of selection and multiplication; (3) evidence of uniformity and stability; and (4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified
- 18b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:
- (1) identify these varieties and state all differences objectively;
  - (2) attach statistical data for characters expressed numerically and demonstrate that these are clear differences; and
  - (3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness.
- 18c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.
- 18d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, etc.
- 18e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.
19. If "Yes" is specified (seed of this variety be sold by variety name only, as a class of certified seed), the applicant MAY NOT reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. (See Regulations and Rules of Practice, Section 97.103).
22. See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.
23. See Section 55 of the Act for instructions on claiming the benefit of an earlier filing date.

21. CONTINUED FROM FRONT (Please provide a statement as to the limitation and sequence of generations that may be certified.)

22. CONTINUED FROM FRONT (Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety (including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.)

Advertised in the May 2001 issue of Golf Course Management Magazine

23. CONTINUED FROM FRONT (Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).)

**NOTES:** It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the application/certificate. There is no charge for filing a change of address. The fee for filing a change of ownership or assignment or any modification of owner's name is specified in Section 97.175 of the regulations. (See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of the Regulations and Rules of Practice.)

To avoid conflict with other variety names in use, the applicant must check the appropriate recognized authority. For example, for agricultural and vegetable crops, contact: Seed Branch, AMS, USDA, Room 213, Building 306, Beltsville Agricultural Research Center-East, Beltsville, MD 20705. Telephone: (301) 504-8089. <http://www.ams.usda.gov/lsg/seed/lis-sd.htm>

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this collection of information is (0581-0055). The time required to complete this information collection is estimated to average 1.4 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, sexual orientation, or marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

S&T-470 (04-01) designed by the Plant Variety Protection Office with WordPerfect 6.0a. Replaces STD-470 (02-99) which is obsolete.

## EXHIBIT A

## Breeding History and Origin of "Biltmore" (MI3) Tall Fescue

A turfgrass germplasm improvement program was initiated by the New Jersey Agricultural Experiment Station of Rutgers University in 1962. Thousand of hectares of old turfs and pastures throughout the USA were examined to find attractive, persistent, pest resistant and stress tolerant turfgrasses. Large, attractive plants of tall fescue (*Festuca arundinacea* Schreb.) were found in a few old turfs in New Jersey, Pennsylvania, Maryland Virginia, Missouri, North Carolina, Ohio, Georgia, South Carolina, Alabama, Mississippi, Tennessee, Kentucky, Texas, Kansas and Idaho. A small percentage of additional germplasm was selected from a number of accessions received from the Plant Germplasm Resources Laboratory of AR-SEA-USDA and from trispecies hybrids of tall fescue, meadow fescue, (*F. pratensis* Huds), and perennial ryegrass (*Lolium perenne* L.) obtained from the U.S. Regional Pasture Research Laboratory, University Park, PA. Germplasm collections and accessions were evaluated in mowed clonal trials and spaced-plant nurseries. Intercrosses of the most promising were then subjected to many cycles of population improvement using phenotypic and genotypic recurrent selection plus population backcrossing. Single-plant progenies were established in turf trials mowed at 2 cm. During the initial cycles of this program. Commercial cultivars of tall fescue available prior to 1980 were unable to survive this frequent close mowing in stressful environments. Attractive plants surviving in the best plots were chosen as parents of subsequent cycles of recurrent selection. Selection for high floret fertility and other characteristics indicating high seed yield potential was conducted in spaced-plant nurseries initially in New Jersey and later in both Oregon and New Jersey in cooperative turfgrass breeding efforts. New sources of tall fescue germplasm was added as appropriate from the continuing collection program.

After varying cycles of population improvement, plants were selected from top performing plots from turf trials in 1992, 1993, 1994, 1995, and 1996 at the Rutgers University Plant Science Research and Extension Farms at Adelphia, and North Brunswick, NJ. These 9,120 selected plants were transferred to spaced-plant nurseries at Adelphia during 1996 and 1997. Immediately prior to anthesis in the spring of 1998, 46 plants were selected from these nurseries and moved to an isolated block for inter-pollination. Selection was based on morphologically similar plants that were an attractive dark-green color, free from disease and stress symptoms, showed high seed yield potential, medium reproductive maturity, and an intermediate plant height. Seed was subsequently harvested from 40 parents showing good floret fertility. Thirty-one of these maternal parents contained a fungal endophyte [*Neotyphodium coenophialum* (Morgan Jones and Gams) Glenn, Bacon, and Hanlin]. Single plant progenies of each plant were seeded in a turf trial at Adelphia during the late summer of 1998. Seed of each progeny was sent to Tom Brentano in Western Oregon for additional evaluation, selection and seed increase.

A 8,500 plant spaced plant nursery was established in Western Oregon in the fall of 1998 by half sib progeny line for evaluation of individual plant and maternal line seed reproduction characteristics and attractiveness. Approximately 10% of the plants in this nursery were rogued just prior to anthesis in May and June of 1999 to increase uniformity. The balance of the plants were harvested as the Breeder Seed of (MI3) Biltmore tall fescue.

(MI3) Biltmore tall fescue has been entered into the National Turfgrass Evaluation Program (NTEP) Fall, 2001 for additional observation and testing of turf performance at multiple locations within the United States.

(MI3) Biltmore tall fescue has been observed in multiple generations and is highly uniform and stable. Variants appeared less than 1% and were observed as taller plants with wider leaves, these plants should be rogued for uniformity in the foundation generation of seed increase.

EXHIBIT B

Statement of Distinctness

Biltmore tall fescue has been examined and compared against many important and commercial varieties of tall fescue and has been found to be a consistent, unique, distinct, and stable variety.

Biltmore has been found to be most similar to Lancer tall fescue in seasonal growth and plant characteristics, though Biltmore has been exhibited a consistently and significantly shorter panicle length and a consistently and significantly shorter tiller leaf length.

U.S. DEPARTMENT OF AGRICULTURE  
PLANT VARIETY PROTECTION OFFICE, AMS, USDA  
NATIONAL AGRICULTURAL LIBRARY Bldg., Rm. 500  
10301 BALTIMORE Blvd.  
BELTSVILLE, MD 20705OBJECTIVE DESCRIPTION OF VARIETY  
TALL & MEADOW FESCUES  
(*Festuca* spp.)

NAME OF APPLICANT(S)	TEMPORARY DESIGNATION	VARIETY NAME
Novel AG, Inc.	MI-3	Biltmore
ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code)		FOR OFFICIAL USE ONLY
19664 Bernards Lane NE Saint Paul, OR 97137 Thomas E. Brentano		PVPO NUMBER 200200141

Place the appropriate number that describes the varietal characteristic of this variety in the boxes below. Use leading zeroes when necessary (e.g. 089). Characteristics described, including numerical measurements, should represent those that are typical for the variety. Measured data should be for SPACED PLANTS. Royal Horticultural Society or any recognized color fan may be used to determine plant colors. Characteristics marked with an asterisk \* are characteristics which should be recorded.

## \* 1. SPECIES: (With comparison varieties, use varieties within the species of the application variety)

\_\_7\_\_ 1 = *F. arundinacea* (Tall)Turf Types

1 = Kentucky 31	2 = Rebel	3 = Olympic	4 = Bonanza	5 = Arid	6 = Rebel II
7 = Shortstop	8 = Silverado	9 = Rebel Jr.	10 = Mini Mustang	11 = Crewcut	12 = Bonsai
13 = Lancer	14 = Falcon II	x = none/not equal/ shorter/ longer			

Forage Types

20 = Kentucky 31	21 = Martin	22 = Forager	23 = Mozark
24 = Kenhy	25 = AU Triumph	26 = Fawn	27 = Cajun

\_\_\_\_ 2 = *F. pratensis* (Meadow)

30 = Admira	31 = Beaumont	32 = Comtessa	33 = Ensign	34 = Trader
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## \* 2. CYTOLOGY:

\_\_42\_\_ Chromosome Number

## 3. ADAPTATION: (0 = Not Tested; 1 = Not Adapted; 2 = Adapted)

\_\_0\_\_ Transition Zone \_\_2\_\_ West \_\_2\_\_ Northeast \_\_0\_\_ Other (Specify): \_\_\_\_\_

## \* 4. MATURITY: (Date First Headed, 10% of Panicle Emergence)

__6__ Maturity Class	1 = Very early ( )	2 = AU Triumph	3 = Early (Fawn)	4 = K31, Kenhy	5 = Medium (Rebel)
	6 = Bonanza	7 = Late (Silverado)	8 =	9 = Very late	x = not equal/same as

Date Headed \_\_May 10\_\_ Location \_\_Corvallis, Oregon\_\_

\_\_1\_\_ Days earlier than \_\_6\_\_

Maturity same as \_\_x\_\_ Comparison Variety (not equal)

\_\_7\_\_ Days later than \_\_4\_\_

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- \* 5. MATURE PLANT HEIGHT CM: (Average of 100 culms \* INTERNODE LENGTH CM:  
from crown to top of panicle, if panicle is nodding, straighten) (First internode subtending the flag leaf)

\_070.7\_ cm Height

\_10.9\_ cm Internode length

\_1\_9\_2\_ cm shorter than 6\_

\_8.9\_ cm shorter than 1\_

Height same as \_x\_ Comparison Variety

Length same as \_13\_ Comparison variety

\_xx\_ cm taller than \_xx\_ not taller

\_0\_ cm longer than \_x\_

- \* HEIGHT AT EAR EMERGENCE CM: (Flag leaf height from crown to flag leaf node)

\_32.1\_ cm Height

\_24.0\_ cm shorter than 1\_

Height same as \_x\_ Comparison Variety

\_0\_ cm taller than \_x\_

- \* 6. GROWTH HABIT: (Mature Plants)

\_7\_ 1 = Prostrate ( ) 3 = Semiprostrate ( ) 5 = Horizontal ( )  
7 = Semi-erect (Rebel) 9 = Erect (Mini Mustang)

- \* 7. RHIZOMES (Psuedo):

\_0\_ mm Length 1\_1 = Absent ( ) 2 = Rare (Rebel) 3 = Common ( )

- \* 8. LEAF BLADE: (Tiller leaves/ turf color)

\* \_6.23\_ Color: 1 = Light green ( ) 3 = Medium light green ( ) 5 = Green (Rebel II )  
7 = Medium dark green (Bonsai) 9 = Very dark green ( )

\_6.7\_ -Bonsai Specify rating of comparison variety

\* \_9\_ Anthocyanin: 1 = Absent ( ) 9 = Present ( )

\* \_9\_ Basal Hairs: 1 = Absent ( ) 9 = Present ( )

\* \_9\_ Margins: 1 = Smooth ( ) 5 = Semi-rough ( ) 9 = Rough ( )

\* \_5.7\_ Width Class: 1 = Very coarse ( ) 3 = Coarse ( ) 5 = Medium ( )  
7 = Fine ( ) 9 = Very Fine ( )

- \* TILLER LEAF LENGTH CM: (First leaf subtending the flag leaf)

\_10.9\_ cm Tiller Leaf Length

\_5.4\_ cm shorter than 1\_

Length same as \_13\_ Comparison Variety

\_0\_ cm longer than \_x\_

- \* TILLER LEAF WIDTH MM:

\_4\_2\_ mm Tiller Leaf Width

\_1\_6\_ mm narrower than 1\_

Width same as \_x\_ Comparison variety

\_0\_ mm wider than \_x\_

## 8. LEAF BLADE: (continued)

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## FLAG LEAF LENGTH CM:

\_9\_.1\_ cm Flag Leaf Length

\_3\_.3\_ cm shorter than \_1\_

Length same as \_14\_ Comparison Variety

\_.0\_ cm longer than \_x\_

## FLAG LEAF WIDTH MM:

\_3\_.3\_ mm Flag Leaf Width

\_1.9\_ mm narrower than \_1\_

Width same as 13 Comparison variety

\_.0\_ mm wider than \_x\_

## \* 9. LEAF SHEATH: (Basal Portion)

\* \_9\_ Anthocyanin (seedling): 1 = Absent (K31) 9 = Present ( )

\* \_9\_ Auricle Hairiness: 1 = Absent ( ) 9 = Present ( )

## \* 10. PANICLE: (At seed maturity except where noted.)

\* \_6.3\_ Shape: 1 = Narrow-tapering ( ) 5 = Ovate ( Bonsai ) 7 = Oblong ( Bonanza ) 9 = Other (specify)

\* \_5.8\_ Type: 1 = Compact (appressed) 5 = Intermediate ( ) 7 = Open ( Bonanza ) 9 = Other (specify)

\* \_9\_ Orientation: 1 = Nodding ( ) 9 = Erect ( Shortstop )

\* \_7.9\_ Branch Pubescence: 1 = Glabrous ( ) 9 = Pubescent ( Shortstop )

\* \_6\_ Anther Color (At anthesis): 1 = Yellowish Green 2 = Green 3 = Bluish Green  
4 = Purplish 5 = Reddish 6 = Other (Specify)- 74% Yellowish Green\* \_3.9\_ Glume Color (At anthesis): 1 = Yellowish Green 2 = Green 3 = Bluish Green  
4 = Purplish 5 = Reddish 6 = Other (Specify)

\* \_16.6\_ cm Panicle Length (from base to tip, if nodding, straighten; after anthesis)

\_7\_.8\_ cm shorter than \_1\_

Length same as \_x\_ Comparison Variety

\_.0\_ cm longer than \_x\_

## \* 11. SEED: (With Lemma &amp; Pelea)

\* \_2625\_ mg per 1000 seeds

\_273\_ mg less than \_4\_

Weight same as \_13\_ Comparison Variety

150\_ mg more than \_7\_

PALEA: (Keels or Margins) Hairs: 1 = Absent ( ) 5 = Short (Missouri 96) 9 = Long ( )

LEMMA: Hairs: 1 = Absent (Kenhy) 5 = Several ( ) 9 = Many (Missouri 96)

\_5\_.6\_ mm Lemma Length (Mature) \_13.3\_ mm Lemma width

\_0\_.4\_ mm shorter than \_1\_ \_0\_.5\_ mm narrower than \_1\_

Length same as \_x\_ Comparison Variety Width same as \_13\_ Comparison variety



\_\_0\_\_ mm longer than \_\_x\_\_

\_\_0\_\_ mm wider than \_\_x\_\_

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10. PANICLE: (continued)

\*AWNS: 3.2\_\_ AWNS: 1 = Absent ( ) 9 = Present (Falcon) \_\_95\_\_ % Plants with awns

\_\_1\_\_0\_\_ mm Awn length (Of those present.)

\_\_2\_\_ mm Shorter than 12\_\_

Length same as \_\_13\_\_ Comparison Variety

\_\_0\_\_ mm Longer than \_\_x\_\_

12. DISEASE, INSECT, AND NEMATODE REACTION: (0= Not Tested 1= Least Resistant 9= Most Resistant)

\_\_0\_\_ Melting-out *Drechslera poae*

\_\_0\_\_ Blind Seed *Gloeotinia temulenta*

\_\_7.3\_\_ Leaf Spot *D. siccans*

\_\_0\_\_ Dollar Spot *Lanzia, Mollerdiscus* spp.

\_\_0\_\_ Net Blotch *D. dictyoides*

\_\_6\_\_ Stem Rust *Puccinia graminis*

\_\_0\_\_ Brown Patch *Rhizoctonia solani*

\_\_0\_\_ T. Blight *Typhula incarnata*

\_\_0\_\_ C. Leaf Spot *Cercospora fectuae*

\_\_0\_\_ Pythium Blight *Pythium* spp.

\_\_0\_\_ Pink Snow Mold *Gerlachia nivalis*

\_\_0\_\_ Powdery Mildew *Erysiphe graminis*

\_\_0\_\_ Silver Top *F. tricinctum, F. roseum*

\_\_0\_\_ Crown Rust *Puccinia coronata*

\_\_0\_\_ Other Disease \_\_\_\_\_

\_\_0\_\_ Other Insect \_\_\_\_\_

\_\_0\_\_ Other Nematode \_\_\_\_\_

13. ENVIRONMENTAL STRESS

\_\_6\_\_ Drought Stress 1 = Susceptible ( ) 5 = Tolerant ( ) 9 = Resistant ( )

\_\_ Shade Stress 1 = Susceptible ( ) 5 = Tolerant ( ) 9 = Resistant ( )

\_\_5\_\_ Winter Stress 1 = Susceptible ( ) 5 = Tolerant (Lancer) 9 = Resistant ( )

14. GIVE VARIETY OR VARIETIES THAT MOST CLOSELY RESEMBLE THE APPLICATION VARIETY. For the following characteristics, indicate the degree of resemblance with the following scale:

1 = Application variety is less than comparison variety 2 = Same as 3 = More than, better, greater, darker, etc.

Character	VarietiesRating	Character	VarietiesRating
Leaf Width	Lancer 1	Leaf Color	Lancer 3
Panicle Color	Lancer 2	Panicle Shape	Bonsai 2
Seed Size	Shortstop 1	Cold Injury	
Winter Color	Lancer 2	Heat	
Disease			

\* 15. EXPERIMENTAL: Give a brief summary of the experimental design utilized to collect the data used on this form. Cultural conditions, number of plants measured and plant spacing must be specified.

3 x Replicated Spaced Plant Nursery 24" in Row and 24" Row width

Dryland Production

60 plants established- 20 Plants/Rep X 3 Reps Randomized Block Design

Established Each year Prior to Measurements- October 1999 and November 2000.

30# NPK at transplant/ 100# N following Spring.

## 2000 Morphological Measurements for a 1999 planted Tall Fescue PVP Nursery

Variety	Heading Dates	Plant Height	Panicle Length	Flag Leaf Width	Flag Leaf Length	Tiller Leaf Width	Tiller Leaf Length	Internode Length
Bonanza	11-May	93.89	23.58	4.00	9.58	5.41	13.69	17.26
Biltmore	10-May	68.40	14.00	2.82	5.33	3.73	6.71	11.06
Falcon	6-May	95.20	19.59	3.30	8.55	4.80	11.37	17.95
Falcon II	8-May	86.94	18.60	3.46	8.88	4.89	10.82	16.01
KY-31	3-May	101.40	21.40	3.61	8.37	5.43	11.49	19.47
Lancer	10-May	81.30	16.83	2.71	6.30	3.74	9.30	14.23
Rebel II	7-May	93.60	20.12	3.57	9.70	4.85	12.17	17.31
Shortstop	13-May	79.64	17.34	3.22	7.66	4.19	9.96	12.94

LSD (T test) 0.05%    2.99    10.02    2.57    0.71    1.89    0.91    2.52    2.36

Measurements are from a spaced-plant nursery established near Corvallis, OR Fall 1999

## 2001 Morphological Measurements for a 2000 planted Tall Fescue PVP Nursery

Variety	Heading Dates	Plant Height	Panicle Length	Flag Leaf Width	Flag Leaf Length	Tiller Leaf Width	Tiller Leaf Length	Internode Length	Height @ Ear Emergence
Bonanza	11-May	84.42	23.72	5.46	17.00	5.79	19.03	9.99	43.53
Biltmore	11-May	73.03	19.17	3.84	12.76	4.61	15.11	10.69	32.05
Falcon	8-May	98.76	26.08	4.65	17.76	5.85	21.18	20.06	51.99
Falcon II	8-May	82.19	21.36	4.39	10.98	5.14	15.82	13.29	40.10
KY-31	4-May	103.10	27.31	4.70	16.45	6.24	21.08	18.40	56.06
Lancer	8-May	85.87	29.89	3.79	16.44	5.50	21.64	17.58	30.01
Rebel II	7-May	87.40	23.77	4.78	17.62	5.73	20.32	14.55	42.39
Shortstop	10-May	80.95	22.41	4.39	12.48	5.38	18.69	12.20	38.46

LSD (T test) 0.05%    2.93    13.31    4.93    0.83    3.48    1.19    3.85    4.51    10.37

Measurements are from a spaced-plant nursery established near Corvallis, OR Fall 2000

## Average of 2000/2001 Morphological Measurements for a 2000 planted Tall Fescue PVP Nursery

Variety	Heading Dates	Plant Height	Panicle Length	Flag Leaf Width	Flag Leaf Length	Tiller Leaf Width	Tiller Leaf Length	Internode Length
Bonanza	11-May	89.16	23.65	4.73	13.29	5.60	16.36	13.63
Biltmore	10-May	70.72	16.59	3.33	9.05	4.17	10.91	10.88
Falcon	7-May	96.98	22.84	3.98	13.16	5.33	16.28	19.01
Falcon II	8-May	84.57	19.98	3.93	9.93	5.02	13.32	14.65
KY-31	3-May	102.25	24.36	4.16	12.41	5.84	16.29	18.94
Lancer	9-May	83.59	23.36	3.25	11.37	4.62	15.47	15.91
Rebel II	7-May	90.50	21.95	4.18	13.66	5.29	16.25	15.93
Shortstop	11-May	80.30	19.88	3.81	10.07	4.79	14.33	12.57

Measurements are averaged from spaced-plant nursery(s) established near Corvallis, OR Fall 1999/2000

## Tall Fescue Seed Measurements

## 2000 Tall Fescue Seed Measurements

	10 Seed Width	10 Seed Length	mg/1000 Seeds
Bonanza	13.67 mm	6.03 mm	3083
(M13) Biltmore	13.0 mm	5.43 mm	2817
Falcon	13.67 mm	6.05 mm	3057
Falcon II	13.0 mm	6.05 mm	3130
KY-31	14.0 mm	6.19 mm	3050
Lancer	12.83 mm	6.03 mm	2940
Rebel II	14.0 mm	6.09 mm	3107
Shortstop	13.33 mm	5.61 mm	2717

## 2001 Tall Fescue Seed Measurements

	10 Seed Width	10 Seed Length	mg/1000 Seeds
Bonanza	13.33 mm	5.94 mm	2700
(M13) Biltmore	13.67 mm	5.82 mm	2433
Falcon	14.33 mm	6.10 mm	2500
Falcon II	14.67 mm	6.44 mm	2433
KY-31	13.67 mm	5.91 mm	2800
Lancer	13.67 mm	6.25 mm	2433
Rebel II	13.50 mm	5.84 mm	2667
Shortstop	13.67 mm	5.80 mm	2233

## Average of 2000/2001 Seed Measurements

	10 Seed Width	10 Seed Length	mg/1000 Seeds
Bonanza	13.50 mm	5.99 mm	2892
(M13) Biltmore	13.34 mm	5.63 mm	2625
Falcon	14.0 mm	6.08 mm	2779
Falcon II	13.84 mm	6.25 mm	2782
KY-31	13.84 mm	6.05 mm	2925
Lancer	13.25 mm	6.14 mm	2687
Rebel II	13.75 mm	5.96 mm	2887
Shortstop	13.50 mm	5.71 mm	2475

**Additional Morphological Measurements for a MI-3/Biltmore tall fescue**

Measurements are from a spaced-plant nursery established near Corvallis, Oregon.

Height @ Ear Emergence	32.05
Leaf Blade Color	6.33
Leaf Blade Anthocyanin	9.00
Leaf Blade Basal Hairs	9.00
Margin/ Smoothness	3.00
Leaf Sheath Anthocyanin	5.83
Leaf Sheath Auricle Hairiness	9.00
Awns Absent-1, Present 9	3.23
% Plants w/Awns	95.00
Awn Length	1.04
Mature Plant Habit 1=Prostrate 9=Erect	6.66
Glume Color 1=yellow 2=green 3=bluegreen	3.90
4=purple 5=reddish 6=other	
Leaf Coarseness 1=V Coarse 9+V Fine	5.67
Panicle Type 1=compact 5=intermediate	5.83
7=open 9=other	
Growth Habit 1=prostrate 9=erect	8.82

U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). The information is held confidential until the certificate is issued (7 U.S.C. 2426).

**EXHIBIT E**  
**STATEMENT OF THE BASIS OF OWNERSHIP**

1. NAME OF APPLICANT(S) Novel AG, Inc. Thomas E. Brentano <i>2008 1/7/05</i>	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER MI-3	3. VARIETY NAME Biltmore
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP, and Country) 19664 Bernards Lane NE Saint Paul, OR 97137	5. TELEPHONE (Include area code) 503-633-2697	6. FAX (Include area code) 503-633-2698
7. PVPO NUMBER <i>200200141</i>		

8. Does the applicant own all rights to the variety? Mark an "X" in the appropriate block. If no, please explain

☒ YES ☐ NO

9. Is the applicant (individual or company) a U.S. National or a U.S. based company? If no, give name of country

☒ YES ☐ NO
10. Is the applicant the original owner? ☒ YES ☐ NO If no, please answer one of the following:

a. If the original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. National(s)?

☐ YES ☐ NO If no, give name of country

b. If the original rights to variety were owned by a company(ies), is (are) the original owner(s) a U.S. based company?

☐ YES ☐ NO If no, give name of country

11. Additional explanation on ownership (If needed, use the reverse for extra space):

Novel AG, Inc. is working under an agreement with LESCO Inc. and Rutgers University.

**PLEASE NOTE:**

Plant variety protection can only be afforded to the owners (not licensees) who meet the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed the final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definitions.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 6 minutes per response, including the time for reviewing the instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

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